

NRP *Instructor* UPDATE



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How Does the International Liaison Committee on Resuscitation (ILCOR) Impact the Neonatal Resuscitation Program®?



The International Liaison Committee on Resuscitation (ILCOR)'s official mission is "to promote, disseminate and advocate international implementation of evidence-

informed resuscitation and first aid using transparent evaluation and consensus summary of scientific data." ILCOR is supported by 8 resuscitation councils from across the globe including the American Heart Association (AHA) (United States), Heart and Stroke Foundation of Canada, the European Resuscitation Council, the Resuscitation Council of Asia (Japan, Taiwan, South Korea, Singapore, Thailand), the Australian/New Zealand Committee on Resuscitation, Inter-American Heart Foundation (Central and South America), Resuscitation Council of South Africa, and the Indian Resuscitation Council Federation (India). There are 6 different task forces including a Neonatal Life Support Task Force.

The ILCOR Neonatal Life Support Task Force conducts systematic reviews, scoping reviews, and evidence updates on questions related to resuscitation of the newborn infant. These reviews serve as the scientific scaffold for development of neonatal resuscitation algorithms and educational programs across the world. Areas of focus include best practices in preparing personnel and equipment for a birth, umbilical cord management, initial

steps of resuscitation, significant emphasis on how to best inflate the newborn lung and effectively ventilate when needed, as well as the less frequently needed steps of cardiac compressions and medications. The task force identifies and ranks questions by monitoring existing literature, reflecting on current clinical and teaching practice, consulting with a ~50-member group of international experts in neonatal resuscitation, as well as considering topics submitted by regional resuscitation councils. In simple terms, ILCOR reviews and summarizes neonatal resuscitation science from across the world and comes to consensus as to the certainty of the evidence, and what the science suggests are best steps to take during resuscitation.

ILCOR provides justification in an annual Consensus on Science and Treatment Recommendation (CoSTR) publication. Public comment is sought via the [ILCOR](https://www.ilcor.org) website prior to official publication in *Circulation*, *Resuscitation*, and *Pediatrics*. In the United States, every 5 years and as needed, the AHA and American Academy of Pediatrics (AAP) produce comprehensive neonatal resuscitation guidelines for the USA based on the ILCOR CoSTR with modifications that reflect the resources available in the USA and societal values.

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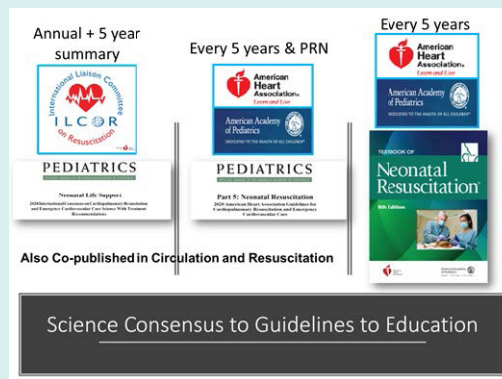
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In conjunction with the publication of updated AHA/AAP comprehensive guidelines, the Neonatal Resuscitation Program® (NRP®) Steering Committee releases the next edition of the NRP education program which is used to train the neonatal medical work force regarding the latest newborn resuscitation guidelines. Current ILCOR Neonatal Life Support Task Force members from the United States include Drs. Elizabeth Foglia, Henry Lee, Gary Weiner, Myra Wyckoff, and Nicole Yamada.



How Will the Recent American Heart Association (AHA) and American Academy of Pediatrics (AAP) Focused Update on Neonatal Resuscitation Impact NRP Instructors?

As described above, worldwide scientific research regarding neonatal resuscitation is continually subjected to rigorous review by a team of top neonatal experts. The International Liaison Committee on Resuscitation (ILCOR) Neonatal Life Support Task Force, in partnership with the AHA and the AAP, recently published the [2023 American Heart Association and American Academy of Pediatrics Focused Update on Neonatal Resuscitation](#) based on four systematic reviews. These updates focus on umbilical cord management for term and preterm newborns and optimal devices for positive-pressure ventilation (PPV) during newborn resuscitation. Although they provide additional insights, these updates do NOT change the current NRP algorithm based on the 2020 recommendations. It is useful for NRP Instructors to be aware of these updates to provide more insight and context for instructing neonatal resuscitation courses. These updates will inform future planning for the 9th edition of the Neonatal Resuscitation Program.

The following recommendations are taken directly from the referenced text.

Regarding Term and Late Preterm Umbilical Cord Management:

- For term and late preterm newborn infants ≥ 34 weeks' gestation who do not require resuscitation, delayed cord clamping (DCC) (≥ 30 seconds) can be beneficial compared with early cord clamping (< 30 seconds). *Level of Evidence: Class IIa (moderate. Benefit \gg Risk). Level B-R (Based on 1 or more RCTs)*
- For term and late preterm newborn infants ≥ 34 weeks' gestation who do not require resuscitation, intact cord milking is not known to be beneficial compared with DCC (≥ 30 seconds). *Level of Evidence: Class III (moderate, no benefit. Benefit = Risk). Level C-LD (Based on Limited Data)*
- For nonvigorous term and late preterm newborn infants (35–42 weeks' gestation), intact cord milking may be reasonable compared with early cord clamping (< 30 seconds). *Level of Evidence: Class IIb (weak. Benefit \geq Risk). Level B-R (Based on 1 or more RCTs)*

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Regarding Preterm Newborn Umbilical Cord Management:

- For preterm newborn infants <34 weeks' gestation who do not require resuscitation, delaying cord clamping (≥ 30 seconds) can be beneficial compared with early cord clamping (<30 seconds). *Level of Evidence: Class IIa (moderate. Benefit>>Risk). Level B-R (Based on 1 or more RCTs)*
- For preterm newborn infants between 28 and 34 weeks' gestation who do not require resuscitation and in whom DCC cannot be performed, intact cord milking may be reasonable. *Level of Evidence: Class IIb (weak. Benefit>/=Risk). Level B-R (Based on 1 or more RCTs)*
- For preterm newborn infants <28 weeks' gestation, intact cord milking is not recommended. *Level of Evidence: Class III (moderate, no benefit. Benefit=Risk). Level B-R (Based on 1 or more RCTs)*

Regarding PPV for Newborn Infants:

- Effective positive-pressure ventilation is the priority in newborn infants who need support after birth.
- It can be beneficial to use a T-piece resuscitator instead of a self-inflating bag, with or without a positive end-expiratory pressure valve, for administering positive-

pressure ventilation to newborn infants, particularly for preterm infants. *Level of Evidence: Class IIa (moderate. Benefit>>Risk). Level B-R (Based on 1 or more RCTs)*

- Because both T-piece resuscitators and flow-inflating bags require a compressed gas source to function, a self-inflating bag should be available as a backup in the event of compressed gas failure when using either of these devices.
- Use of a supraglottic airway may be considered as the primary interface to administer positive-pressure ventilation instead of a face mask for newborn infants delivered at ≥ 34 0/7 weeks' gestation. *Level of Evidence: Class IIb (weak. Benefit>/=Risk). Level C-LD (Based on Limited Data)*

Yamada N. K. Szyld E. Strand M. L. Finan E. Illuzzi J. L. Kamath-Rayne B. D. Kapadia V. S. Niermeyer S. Schmöler G. M. Williams A. Weiner G. M. Wyckoff M. H. Lee H. C. American Heart Association and American Academy of Pediatrics. (2024). 2023 American heart association and american academy of pediatrics focused update on neonatal resuscitation: an update to the american heart association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. *Pediatrics* (2024) 153 (2): e2023065030. <https://doi.org/10.1542/peds.2023-065030>

NRP at NCE

Thank you to all who joined us at the #AAP2023 AAP National Conference & Exhibition (NCE) and visited the Neonatal Resuscitation Program® (NRP®) booth at the AAP Resource Center or attended our joint program with the AAP Section on Neonatal-Perinatal Medicine: *Optimizing Counseling and Resuscitation for Newborns and their Families*.

Please Save the Date for next year's NRP Current Issues Seminar on Friday, September 27, 2024 in Orlando, FL. For more information please visit: <https://aapexperience.org/future-dates/>



NRP Around the World

Did you know that 8th edition NRP was formally rolled out in countries around the world? The American Academy of Pediatrics partnered with the American Heart Association International Training Centers (ITCs) to offer NRP courses in a standardized way. This rollout was also made possible through our partnership with Laerdal and RQI Partners.

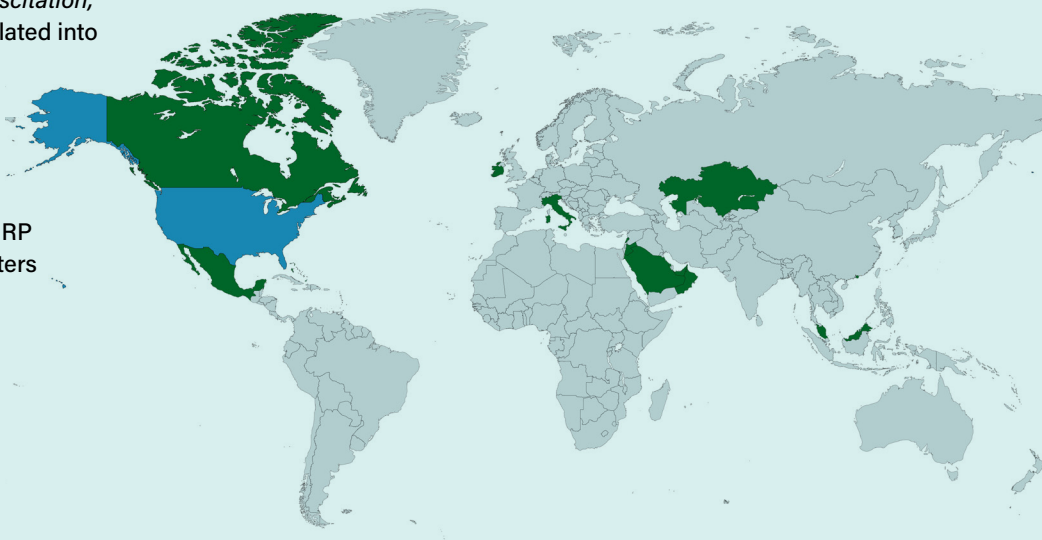
We began by having expert NRP instructors virtually oversee trainings in Ireland and the United Arab Emirates. We have also led virtual rollouts in Hong Kong and Italy. Each of these countries now has established NRP Instructors, and courses are regularly taking place. In the middle east, the new local instructors spread NRP throughout multiple countries in the region.

In August 2023, we traveled to Mexico for our first in-person international NRP 8th edition rollout. Expert NRP instructors, Drs. Teresa del Moral and Marta Galarza, were able to train 20 Advanced Providers and 12 new Instructors over the course of 3 days at the Laerdal Mexico office.



NRP International Rollout by the Numbers

- *Textbook of Neonatal Resuscitation*, 8th edition has been translated into 11 languages
- 44,600 Providers trained
- 500 Instructors trained
- 16 countries with official NRP International Training Centers



NRP Research Grant Award

Congratulations to the 2023 NRP Grant Awardees!

Bobbi Byrne, MD, Human Factors/Education Grant: *A Picture is Worth a Thousand Lives*

Heather Cruz, MN, ARNP Research Grant: *Insight Research Project*

Kelli Lund, MD, Human Factors/Education Grant: *Describing the Human Factors in Neonatal Tele-resuscitation*

Jessa Rose Li, MD, Young Investigator Award: *Tracheal Suction Using LMA in Non-vigorous Lambs with Meconium Aspiration – Feasibility Pilot*

Deepika Sankaran, MD, Research Grant: *Effect of Saline Bolus on Cerebral Hemodynamics During Neonatal Resuscitation in a Preterm Model*

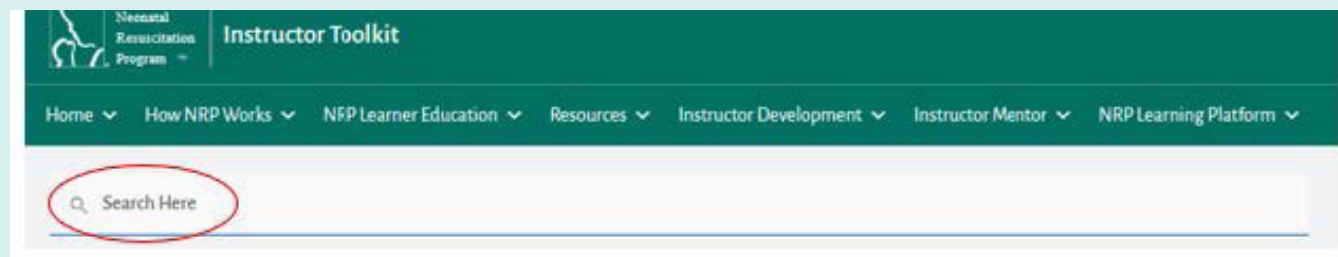
Kathleen Tedesco, MD, Human Factors/Education Grant: *Impact of NRP Education by Deliberate Practice on Improvement in Knowledge and Skills Retention in the Emergency Department*

[2024 NRP Grant](#) intent applications are now open. Intent applications are due **May 3, 2024**.

New NRP Instructor Toolkit Search Feature

Did you know that the NRP Instructor Toolkit (ITK) now has a new SEARCH feature to help you find specific information more easily? Instructors can type in key phrases into the “**Search Here**” bar on the front page of the ITK to locate items of interest more quickly.

For instance, if you want to find out how to objectively evaluate instructor candidates, you can type “evaluate instructor candidates” in the search bar to find the Instructor Candidate Evaluation Tool and other instructor development resources. Take some time to explore this new feature and get reacquainted with your ITK.



Simulation Hint: How to Set Up a T-piece Resuscitator Simulation Using an Aquarium Pump

Did you know that you can stage resuscitation simulations outside of a hospital or simulation lab by using an aquarium pump in place of a compressed gas source to power your T-piece resuscitator? Aquarium pumps can be easily found on the public market and can be powerful enough to generate a simulated 10-liter flow.

The tip sheet, **Simulation How-To Guide: Using a T-piece Resuscitator with an Aquarium Pump** can be found on your Instructor Toolkit (under Documents and Forms) and provides information and instructions and supply specifications so you can create your own functional and portable T-piece assembly.

What you need



T-piece resuscitator with circuit and oxygen tubing



300-gallon aquarium air pump and standard 3/16" aquarium airline tubing



Y-shaped aquarium tubing connector

ACKNOWLEDGEMENTS

The Neonatal Resuscitation Program (NRP) Steering Committee offers the *NRP Instructor Update* to all NRP Instructors.

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Statements and opinions expressed in this publication are those of the authors and are not necessarily those of the American Academy of Pediatrics or American Heart Association.

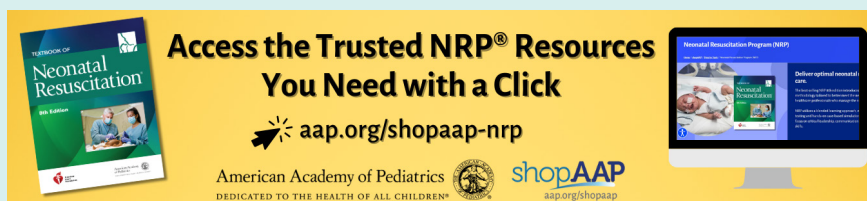
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FAQs

